

REMARKS

In accordance with the foregoing, claims 1, 12 and 17 have been amended and claims 13-16 have been cancelled. Claims 1, 3-12 and 17 are pending and under consideration.

With regard to the objection in item 5, "connection date" has been changed to --connection data--, as suggested by the Examiner.

Claims 1, 3, 10, 11 and 17 are rejected under 35 USC § 103(a) as being obvious over U.S. Patent No. 5,189,700 to Blandford in view of U.S. Patent No. 5,444,780 to Hartman, Jr. The remaining claims are rejected as being obvious over Blandford in view of Hartman, Jr. and other references.

Blandford discloses a device to supply authenticated time and to authenticate digital documents by time stamping. As disclosed at column 7, lines 16-22 and column 7, lines 39-65, authenticated time is supplied to a system which will provide authentication for a digital document of the user ID, text, user sequence number, time and notary ID and sequence number. Particularly, as disclosed at column 7, lines 59-61, the only function of the authentication device is to supply authenticated time. Further, as disclosed column 7, lines 24-27, in Blandford, the user presented a message comprising the user's public key digital signature, the user's document sequence number and the text itself.

Applicants are having difficulty understanding how U.S. Patent No. 5,189,700 to Blandford relates to the present invention and how the Examiner is relying upon the reference. If the Examiner decides to maintain the rejection, it is requested that clarification be provided regarding how Blandford relates to the invention. Otherwise, it is submitted that the reference is irrelevant.

Amended independent claim 1 requires that the apparatus ID be stored in a data form capable of preventing interpolation. The Examiner cites column 5, lines 37-41 of Blandford. This portion of the reference indicates that the components are packaged or sealed in a manner which makes them and their stored data physically inaccessible. Clearly, this is different from storing the apparatus ID using a data form capable of preventing interpolation.

Amended independent claim 1 further recites a first connecting unit which creates connection data by connecting plain text, the time information, the apparatus ID and the personal identification information in a predetermined order. According to claim 1, the digital signature is created using the connection data and a key used only for creating a digital signature. It is very unclear where the Examiner believes Blandford discloses "connection data" and the "digital signature." In Blandford it appears that first, a user enters a public key digital signature, text and a sequence number. See column 7, lines 23-26. Second, It appears that a hash is computed from the input text. See column 7, lines 28-31. It appears that after the first step, Blandford uses the

hash instead of plain text. In a third step, it appears that other data, the internal time, an authentication device ID and the authentication device sequence number are appended to the hash, thereby producing code data. See column 7, lines 28-33. Fourth, it appears that the hash, the user signature and sequence number, the time, the authentication device ID and the authentication device sequence number are transformed into a code using a secret key. See column 7, lines 49-55 and 34-37. Perhaps the Examiner is reading the digital signature on a code data of Blandford. However, the code data does not contain all of the claimed elements.

Amended independent claim 1 recites that the digital signature is connected to connection data (plain text, time information, the apparatus ID and personal identification information) to create a signed data to be transmitted to an external network. The Examiner admits in item 4 of the Office Action that Blandford is deficient in this regard. The Examiner cites column 4, lines 38-44 of Blandford. This portion of the reference states that the authentication device might also make the original data available to the user. However, the original data is not equivalent to plain-text time information, the apparatus ID and the personal information. Further, making the original data available to a user is not the same as creating signed data to be transmitted to an external network.

Although independent claim 1 is referred to above, the other independent claims contain similar, but different, limitations.

Blandford fails to disclose a signature creating apparatus that creates a digital signature based on connection data created by connecting time information, an apparatus ID, plain text and personal identification information. Blandford also fails to disclose that signed data is created by connecting the connection data with the digital signature. Hartman, Jr. also fails to disclose these features. Therefore, it is submitted that the claims patentably distinguish over these two references. The remaining references are cited only for the additional limitations of the dependent claims and do not cure the defects discussed above with regard to Blandford and Hartford, Jr.

As mentioned above, the claims have been amended to clarify the differences between the invention and the cited references. Antecedent basis for the claim amendments is as follows:

A: Time information is set only by an external time authentication authority. This is described at page 15, lines 4-18 and at page 43, lines 8-10. This feature is also disclosed in Figs. 1 and 8.

B: Connection data is created by connecting plain text, the apparatus ID, time stamp and personal identification information in a predetermined order, and the digital signature is connected to the connection data. These features are described at page 27, lines 2-7 and at page 40, lines 11-14 of the specification. These features are also shown in Figs. 3 and 9.

C: The signature creating apparatus comprises a first connecting unit for creating connection data and a second connecting unit for creating signed data by connecting the connection data with the digital signature. These features are disclosed in Figs. 1 and 8.

It is submitted that the application is in condition for allowance and that the next action should be a Notice of Allowance. If the Examiner decides to issue another Office Action relying upon the same references, the Examiner is respectfully requested to answer some of the many questions regarding how Blandford could correspond to the present invention. As discussed above, it is believed that this reference is not relevant.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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